# Examples

The following snippets represent NML structures in the XML format.

* Topology

<nml:Topology xmlns:nml="http://schemas.ogf.org/nml/2012/10/nml"

id="urn:ogf:network:example.net:2012:org"

version="20120814">

* Node

<nml:Node id="urn:ogf:network:example.net:2012:nodeA">

<nml:name>Node-A</nml:name>

<nml:Location idRef="urn:ogf:network:example.net:2012:redcity"/>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasOutboundPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-X:out"/>

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-Y:out"/>

</nml:Relation>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasInboundPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-X:in"/>

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-Y:in"/>

</nml:Relation>

</nml:Node>

* Ports
  + Unidirectional Port

<nml:Port id="urn:ogf:network:example.net:2012:port-X:out">

<nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

</Port>

* + Bidirectional Port

<nml:BidirectionalPort id="urn:ogf:network:example.net:2012:port-X">

<nml:name>X</nml:name>

<nml:Port idRef="urn:ogf:network:example.net:2012:port-X:out"/>

<nml:Port idRef="urn:ogf:network:example.net:2012:port-X:in"/>

</nml:BidirectionalPort>

* + PortGroup

<nml:PortGroup id="urn:ogf:network:example.net:2012:portgroup-X:out">

<nml:LabelGroup encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">

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</nml:LabelGroup>

</nml:PortGroup>

* Links
  + Unidirectional Link

<nml:Link idRef="urn:ogf:network:example.net:2012:linkA:XY">

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasSource">

<nml:Port id="urn:ogf:network:example.net:2012:port-X:out"/>

</nml:Relation>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasSink">

<nml:Port id="urn:ogf:network:example.net:2012:port-Y:in"/>

</nml:Relation>

</nml:Link>

* + Unidirectional Link that is composed of more than one sub-links

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/isSerialCompoundLink">

<nml:Link idRef="urn:ogf:network:example.net:2012:linkA:XY">

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/next">

<nml:Link idRef="urn:ogf:network:example.net:2012:linkB:YZ"/>

</nml:Relation>

</nml:Link>

<nml:Link idRef="urn:ogf:network:example.net:2012:linkB:YZ">

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/next">

<nml:Link idRef="urn:ogf:network:example.net:2012:linkC:ZW"/>

</nml:Relation>

</nml:lLink>

<nml:Link idRef="urn:ogf:network:example.net:2012:linkC:ZW"/>

</nml:Relation>

* + Bidirectional Link

<nml:BidirectionalLink id="urn:ogf:network:example.net:2012:link\_XWX">

<nml:name>Link between ports X and W</nml:name>

<nml:Link idRef="urn:ogf:network:example.net:2012:link\_XW"/>

<nml:Link idRef="urn:ogf:network:example.net:2012:link\_WX"/>

</nml:BidirectionalLink>

* + LinkGroup

<nml:LinkGroup id="urn:ogf:network:example.net:2012:domainy-domainx">

<nml:LabelGroup encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">

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</nml:LabelGroup>

</nml:LinkGroup>

* Labels
  + Label

<nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

* + LabelGroup

<nml:LabelGroup encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">

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</nml:LabelGroup>

* Location

<nml:Location id="urn:ogf:network:example.net:2012:redcity">

<nml:name>Red City</nml:name>

<nml:latitude>30.600</nml:latitude>

<nml:longitude>12.640</nml:longitude>

</nml:Location>

* Services
  + SwitchingService

<nml:Node id="urn:ogf:network:example.net:2012:nodeA">

<nml:name>Node-A</nml:name>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasInboundPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-X:in" />

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-Y:in" />

</nml:Relation>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasOutboundPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-X:out"/>

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-Y:out"/>

</nml:Relation>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasService">

<nml:SwitchingService idRef="urn:ogf:network:example.net:2012:nodeA:switchingService"/>

</nml:Relation>

</nml:Node>

<nml:SwitchingService id="urn:ogf:network:example.net:2012:nodeA:switchingService">

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasInboundPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-X:in" />

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-Y:in" />

</nml:Relation>

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasOutboundPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-X:out"/>

<nml:Port idRef="urn:ogf:network:example.net:2012:nodeA:port-Y:out"/>

</nml:Relation>

</nml:SwitchingService>

* + AdaptationService

<nml:Port id="=" urn:ogf:network:example.net:2012:port-X:in ">

<nml:Relation type="hasService">

<nml:AdaptationService idRef=" urn:ogf:network:example.net:2012:port-X:in:adaptationService" />

</nml:Relation>

</nml:Port>

<nml:AdaptationService id="urn:ogf:network:example.net:2012:port-X:in:adaptationService">

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/providesPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:port-X.1501:in" />

</nml:Relation>

</nml:SwitchingService>

<nml:Port id="urn:ogf:network:example.net:2012:port-X.1501:in">

<nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

</nml:Port>

* + DeadaptationService

<nml:Port id="=" urn:ogf:network:example.net:2012:port-X.1501:in ">

<nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

<nml:Relation type="hasService">

<nml:DeadaptationService idRef=" urn:ogf:network:example.net:2012:port-X.1501:in:deadaptationService" />

</nml:Relation>

</nml:Port>

<nml:DeadaptationService id="urn:ogf:network:example.net:2012:port-X.1501:in:deadaptationService">

<nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/providesPort">

<nml:Port idRef="urn:ogf:network:example.net:2012:port-X:in" />

</nml:Relation>

</nml:SwitchingService>